

REMARKS

I. Overview of the Office Action

Claims 1-4, 11-14, and 18-21 are rejected under 35 U.S.C. § 102(b) as being anticipated by Conley (U.S. Patent Application Publication No. 2002/0099904).

Claims 5, 6, 8-10, 15, and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Conley in view of Kim (U.S. Patent No. 6,381,176).

Claims 7, 16, and 22-25 are indicated as containing an allowable subject matter.

II. Objection to Claim 22

Claim 22 is objected to because of a minor informality.

Claim 22 has been amended to alleviate this objection to claim 22. It is respectfully requested the objection to claim 22 be withdrawn.

III. Prior Art Rejections

A. Rejection of claims 1-4, 11-14, and 18-21 based on Conley

Claims 1-4, 11-14, and 18-21 are rejected under 35 U.S.C. § 102(b) as being anticipated by Conley (U.S. Patent Application Publication No. 2002/0099904).

Claim 1 recites among other elements: “the flash memory controller … to write data and meta-information comprising flash memory state information comprising an indicator which indicates a state of the physical block as valid, deleted, or invalid.”

The Examiner cites two different embodiments of Conley in alleged support of the rejection. (*See* Office Action, pages 3 and 4, #6b and page 19, #45). However, it is well settled that it is improper to combine features from different embodiments without requisite motivation. Regardless, Applicants respectfully submit that **Conley** does not teach or suggest all of the features recited in claim 1 at least for the following reasons.

EMBODIMENT #1: The time stamp

In the first cited embodiment, Conley discloses providing each page with a time stamp. The controller reads the data from the memory, compares time stamps to one another, and

determines the relative ages of the pages of data that are assigned the same logical address. (Paragraphs 50, 51).

Therefore, the first cited embodiment of Conley depends on the time to provide the information about the age of the pages. With the time stamps, Conley necessarily needs to go through a step of comparing the times to one another to determine which page is the newest. To the contrary, a recited indicator immediately signals the status of the block. Accordingly, the time stamp is not the same as or an equivalent of writing the “meta-information comprising flash memory state information comprising an indicator, which indicates a state of the physical block as valid, deleted, or invalid.” Additionally, because the time stamp always depends on time, this cited portion of Conley does not teach or suggest providing “the flash memory state information which is time independent,” as recited in claim 1.

EMBODIMENT #2: The counter

In the second cited embodiment, a counter is used. When updating the data of a page in the original block, the controller reads the count stored in the page, which is being updated, increments the count by one, and writes the incremented count in the new block. The controller compares the counts in the pages having the same logical address to determine the relative ages of the pages. (Paragraphs 51, 52). Similarly to the time stamps, Conley necessarily needs to go through a step of comparing the counter values to one another to determine which page is the newest. To the contrary, a recited indicator immediately signals the status of the block. Accordingly, updating the counter value is not the same as or an equivalent of writing the “meta-information comprising flash memory state information comprising an indicator, which indicates a state of the physical block as valid, deleted, or invalid.”

Additionally, the second cited embodiment of Conley likewise depends on time because the information about the page age is provided based on the number of counts which is increased each time the page is updated. Accordingly, the second cited portion of Conley does not teach or suggest providing “the flash memory state information which is time independent,” as recited in claim 1.

Erasure of the block

Finally, the Examiner asserts that, when Conley erases the block, the time stamp field contains all 1s. (See Office Action, page 4, lines 4-5). The Examiner further asserts that, when

Conley erases the block, all the bits contained within that page are set to 1s. (See Office Action page 19, #45, lines 5-6). These statements are inconsistent with one another. Additionally, the Examiner does not provide any support in Conley for either of the statements. Therefore, it appears that the Examiner assumes that certain aspects of the invention exist in Conley, when they are, in fact, absent from Conley. Absent support for each and every element of claim 1 in Conley, the rejection is improper.

Accordingly, Conley does not teach or suggest at least “to write data and meta-information comprising flash memory state information comprising an indicator, which indicates a state of the physical block as valid, deleted, or invalid, in the physical block, … wherein the flash memory state information is time independent,” as claimed in claim 1. Therefore, **claim 1 and dependent claims 2-4** are patentable over Conley.

Claims 11 and 18 each recites features similar to the features of claim 1. Accordingly, claims 11 and 18 are patentable for similar reasons as claim 1. **Dependent claims 12-14 and 19-21** are patentable at least by virtue of their dependencies.

B. Rejection of claims 5, 6, 8-10, 15, and 17 based on Conley and Kim

Claims 5, 6, 8-10, 15, and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Conley in view of Kim (U.S. Patent No. 6,381,176).

Claims 5, 6, 8-10, 15, and 17 depend on respective independent claims 1, 11, or 18. Kim does not cure any deficiency of Conley. Therefore, **claims 5, 6, 8-10, 15, and 17** are patentable at least by virtue of their dependencies.

CONCLUSION

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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